NOTES ON THE GENUS *LYMANTRIA* HBN. (LYMANTRIIDAE), WITH DESCRIPTIONS OF NEW SPECIES.

By C. L. COLLENETTE.

(With Plate III.)

IN the genus *Lymantria* there exists considerable sexual dimorphism, which has led to a number of errors in the past in determination and description, and to the naming of species from one sex while specimens of the other sex remained unrecognized. In a recent paper on the Lymantriidae of Malaya (Nov. Zool. xxxviii, p. 49, 1932) I ventured to clear up several points of this nature, while the present paper is the result of an examination of all the remaining material in the genus contained in the British and Tring Museums. I have refrained from undertaking a general revision of the genus, as I hope to include this in a paper on the whole family at a later date, but have included descriptions of several new species and dealt with cases of synonymy.

The name under which the genus should be known presents some difficulty. Swinhoe, in his revision of the family (*A.M.N.H.* (9) x, p. 449), uses *Liparis* Ochs. (1810), and states that although this name was used in 1738 by Artidi for a genus of fishes, this date was prior to the starting date for nomenclature, 1758. However, Scopoli, in *Introd. Nat. Hist.* 1777, p. 453, cites and validates Artidi's description, and *Liparis* Scop. is now in current use in Ichthyology. *Liparis* Ochs. must be relegated as a homonym.

In Seitz's *Grossschm. d. Erde*, Schaus in vol. vi uses *Porthetria* Hübn., while Strand and Hering in vols. ii, x and xiv use *Lymantria* Hübn. These two names originate on page 160 in the *Verseichnisz*, *Porthetria* being mentioned first. Several species are cited under *Porthetria* without designation of type, including *P. dispar* L., while under *Lymantria* only two are given, *L. monacha* L. and *L. eremita* Hübn. *L. eremita* is now known to be a colour variation of *L. monacha*.

The first authors to use *Porthetria* appear to have been Humphreys and Westwood, in *Br. Moths and their Transf.*, i, p. 85, 1843, but although *P. dispar* L. is the only species mentioned under the genus, it is not alluded to as type. The next reviser [1] to use *Porthetria* is Kirby, in *Cat. Lep. Het.*, i, p. 475, 1892, who selects *P. dispar* L. as the type. On page 477 Kirby also uses *Lymantria* with *L. monacha* L. as type.

Subsequent to Kirby, *Porthetria* and *Lymantria* appear to have been first combined in a single genus by Hampson, in *Fauna Br. India*, 1893, p. 459, where *Lymantria* is used for the combined genus, and *L. monacha* for the type.

Under Article 28 of the International Rules of Zoological Nomenclature it is laid down that where a genus is formed by the union of two genera of the same date, the name selected by the first reviser shall stand.

[1] I have found the exhaustive bibliography of *P. dispar* in Forbush and Fernald's *The Gypsy Moth*, Mass. State Bd. of Publications, 1896, of great use here.

I therefore use *Lymantria* Hübn. for the genus, type *L. monacha* Linn., a conclusion which has the advantage that *Lymantria* is perhaps the most popular of the several names used in the past.

I have made venation preparations of some fifty of the principal species in the genus. No comment on these is necessary, excepting to mention that there is considerable divergence between species in the distance of vein R^1 from the subcostal in the forewing. This, however, is not a stable factor, for in *L. turneri* Swinh., *L. lygaea* B.-Bak., *L. kebeae* B.-Bak., and doubtless others, specimens exist in which these veins anastomose, others in which they touch, and others again in which they run entirely free from each other.

Lymantria semicincta Wlkr. (Plate III, fig. 6).

Alope semicincta Wlkr., *List Lep. Ins. B.M.*, iii, p. 620 (1855).
Lymantria rhodina Wlkr., *List Lep. Ins. B.M.*, xxxii, p. 366 (1865).

The type of *L. semicincta* is a ♀, and the species is usually represented in collections by a good series of that sex. I have seen no mention of the ♂ in any account of the insect.

Although I can bring forward no actual proof, I am convinced after a careful comparison that the missing ♂ is standing in collections under the name of *Lymantria rhodina* Wlkr. I have figured a specimen of the ♂, as the representation in Seitz is poor.

Lymantria polysticta Collnt. (Plate III, fig. 11).

Lymantria polysticta Collnt., *Entom.*, lxii, p. 278 (1929).

♀. Palpus pale cartridge buff, on the outer side bistre. Antenna bistre, the basal third of the shaft cartridge buff. Head cartridge buff, the eye fringed with bistre, the hair-scales at the base of the antenna orange-buff. Thorax cartridge buff, mixed sparsely with bistre and orange-buff. Abdomen orange-buff. Pectus pinkish buff. Venter orange-buff mixed with bistre. Legs pinkish buff to cartridge buff, the tibiae ringed and spotted with bistre, the tarsi bistre. Forewing and fringe whitish, the bistre markings resembling those of the ♂, but considerably less heavy. Hindwing cartridge buff, inner marginal area tinged with light orange-yellow; a rather indistinct snuff-brown crenate subterminal fascia; a series of interneural snuff-brown spots, slightly invading the fringe, which is otherwise cartridge buff. *Underside* of forewing pinkish buff, inner marginal area cartridge buff; a bistre streak along the costa as far as one-fourth, a spot on the costa above the discocellulars, a further spot postmedially and a smaller spot subterminally; fringe cartridge buff, marked interneurally with bistre. *Underside* of hindwing pinkish buff; a bistre spot on the discocellulars, a second near the apex, and a third near the anal angle; fringe cartridge buff, marked interneurally near the apex with bistre.

Expanse: ♀ 68 mm.

1 ♀ (neallotype), Antsianaka and Lake Alaotra, Madagascar, April–June 1889 (Perrot Frères); British Museum ex Oberthür collection.

When describing the ♂ three years ago, from British Museum material, I did not detect the ♀, which has a much lighter hindwing and less heavy markings on the forewing.

Lymantria joannisi Le Cerf (Plate III, fig. 1).

Lymantria joannisi Le Cerf., *Bull. Mus. Paris*, p. 423 (1921).

♀. Strongly resembles the ♂. The postmedial fascia on the upperside of hindwing is continuous from costa to the 2nd anal vein, and the terminal margin of the hindwing is rounded and not projecting between veins M^3 to Cu^2 as in the ♂.

Expanse : 118 mm.

1 ♀ (neallotype), Diego Suarez, Madagascar ; Tring Museum.

Lymantria russula sp. nov. (Plate III, fig. 14).

♂. Palpus pinkish buff, on the outer side fuscous-black. Antennal shaft pale pinkish buff, pectinations pinkish buff. Head pinkish buff, with a tuft of orange-buff at the base of the antenna. Thorax pale pinkish buff. Abdomen above and beneath pale pinkish buff mixed sparsely with strawberry pink. Pectus and legs pale pinkish buff, marked on the tarsi and towards the distal end of the tibia with bistre. Forewing pale pinkish buff, crossed by numerous snuff-brown fasciae which are obsolescent and visible mainly as spots on and between the veins, the most prominent being an antemedial spot on the costa and two subterminal spots between Cu^2 and the anal vein ; the subterminal fascia appears to be roughly parallel with the termen ; a series of terminal interneural snuff-brown spots ; fringe whitish. Hindwing strawberry pink, mixed towards the termen with pinkish buff ; faint patches of snuff brown towards the apex, and near the termen between vein Cu^2 and the 2nd anal ; termen slightly angled between veins M^3 and Cu^2 ; fringe whitish. *Underside* of both wings pinkish buff, mixed sparsely with strawberry pink ; a faint snuff-brown spot on the discocellulars ; costal area of forewing cinnamon buff, and a series of faint terminal interneural snuff-brown spots ; fringes whitish.

Expanse : 48 mm.

1 ♂ (holotype), Diego Suarez, Madagascar, March 1917 (G. Melou) ; Tring Museum.

This species is nearest to *L. joannisi* Le Cerf (1921), which has also been taken at Diego Suarez, but has considerably longer antennae, with longer pectinations, and has, on the upperside of forewing, the subterminal lunule between veins M^3 and Cu^1 in line with the remainder of the fascia, and not considerably nearer the termen as in *L. joannisi*.

Lymantria velutina Mab.

Orgyia velutina Mab., *Bull. Soc. Zool. Fr.*, iii, p. 90 (1878).

A series of ♂♂ of this large and conspicuous species is included in most of the collections from Madagascar, but the ♀ is unknown. In some points of structure the species agrees well with *Numenoides grandis* Btlr. (1879), known only in the ♀ sex, but the differences in appearance and pattern are so considerable that it seems best to keep them separated for the present.

Lymantria monacha yunnanensis subsp. nov. (Plate III, fig. 3).

♀. Palpus and antenna fuscous. Head and thorax cartridge buff, mixed on the frons and at the base of the antenna with orange-buff, and sparsely on the patagium with fuscous. Abdomen strawberry pink, banded in the distal half with fuscous ; anal segments light ochraceous buff ; ovipositor extruded.

Pectus tawny olive. Venter fuscous, distally light ochraceous buff. Legs fuscous, mixed on the tibiae with tawny olive. Forewing whitish ; five fuscous patches on the costa at approximately equal distances apart, the first basally, the fifth near the apex ; a small fuscous spot in the cell and an angled fuscous streak along the discocellulars ; a fuscous patch postmedially on the inner margin ; traces of a crenate fuscous subterminal fascia ; a series of fuscous interneural terminal spots, continued round the apex and also on to the fringe, which is otherwise whitish. Hindwing pinkish buff ; a broad indistinct tawny-olive subterminal fascia ; a series of fuscous interneural terminal spots, continued on to the fringe, which is otherwise pinkish buff. *Underside* of both wings, and fringes, tawny olive, marked indistinctly as on upperside ; on the hindwing a fuscous discocellular spot and an indistinct postmedial fascia.

♂. Very similar to Swiss specimens of *L. monacha monacha* Linn., the markings on the forewing fine but distinct, the dark terminal band on the hindwing merging without a definite boundary into the ground colour.

Expanse : ♂♂ 41–44 mm., ♀♀ 66–71 mm.

1 ♀ (holotype), 1 ♂ (allotype), 2 ♀♀ and 4 ♂♂ (paratypes), Tse-kou, S.W. of Ta-tsien-lou, Yunnan, 1993 m., 1898 and 1903 (P. Dubernard) ; British Museum, ex Oberthür collection.

The ♂♂ bear considerable resemblance to specimens of *L. monacha monacha* Linn., but the ♀ is so abundantly distinct that I have no hesitation in describing it as a subspecies. This is borne out by the ♂ genitalia.

The ♂♂ have been illustrated and briefly described by Gaede in Seitz's *Grossschm. d. Erde*, ii, *Suppl.*, p. 102 and pl. 8g (1932), as a var. of *L. ascetria* Hübn., but, after comparison with the type of *L. ascetria*, it appears to me that they are not closely related to that species.

Lymantria concolor lacteipennis subsp. nov. (Plate III, fig. 4).

♀. Palpus and antenna fuscous. Head and thorax cream colour ; a patch of ochraceous tawny at the base of the antenna ; a broad patch of fuscous between the antennae and on the front of the thorax. Basal half of abdomen geranium pink, distal half cinnamon buff ; a fuscous spot dorsally on each segment and a further series laterally ; ovipositor extruded. Pectus and venter fuscous, with a patch of geranium pink laterally beneath the hindwing. Legs fuscous, with a patch of cream colour on the outer side of the mid-tibia, and a further patch distally on the tibia. Forewing and fringe cream colour marked with fuscous, the markings resembling those of *L. concolor concolor* Wlkr., but broader and heavier. Hindwing and fringe pale pinkish buff marked with fuscous, the markings heavier than in the ♀ *L. concolor concolor* and approaching those of the ♂ ; inner marginal area faintly tinged in the type and some paratypes with geranium pink. *Underside* of both wings, and fringes, cream colour marked with fuscous, the pattern as on the upperside but more heavy, especially on the hindwing.

♂. Distinguishable from ♂♂ of *L. concolor concolor* only by heavier markings.

Expanse : ♀♀ 53–61 mm., ♂♂ 48–52 mm.

1 ♀ (holotype), 1 ♂ (allotype) and 2 ♀♀ (paratypes), Ta-tsien-lou, Prov. Sze-chwan, China, 3,200 m., 1906 and 1910 ; 4 ♂♂ (paratypes), Tsekou, S.W. of Ta-tsien-lou, 1,993 m., 1898 and 1902 (R. P. J. Dubernard) ; also 1 ♀ and 1 ♂, Tien-tsuen, Yuin-kin, 700 m., 1897 and 1899 ; 1 ♀ and 2 ♂♂, Siao-lou, 1900 and

1903; and 1 ♀, "Frontière Orientale du Thibet," 1906 (R. P. Déjean); all British Museum, ex Oberthür collection.

I have separated these insects as a race of *L. concolor concolor* Wlkr., and this is confirmed by the genitalia. They may be distinguished in the ♀ sex by the geranium pink on the abdomen and the cream colour of the forewing, and in both sexes by the heavier markings. Two of the ♀♀ have been determined by M. Gaede as *L. superans* Wlkr. (see Seitz, *Grossschm. d. Erde*, ii, *Suppl.*, p. 101), but I find this is not confirmed by a comparison with Walker's type in the British Museum.

Lymantria fumida caliginosa subsp. nov.

♀. Distinguishable from *L. fumida fumida* Btlr. by the darker colour of forewing—Saccardo's umber as compared with tawny olive—and by the much less distinct pattern on the forewing.

♂. The colour distinction holds good also in this sex, while the markings on the forewing are reduced to a dark patch on the discocellulars. There is a well-defined collar of strawberry pink between head and thorax, the termen of the forewing is slightly less oblique and the apex more rounded.

Expanse: ♂ 43 mm., ♀♀ 61–66 mm.

1 ♀ (holotype), 1 ♂ (allotype) and 2 ♀♀ (paratypes), Vrianotong, Thibet; British Museum, ex Joicey collection.

In Seitz's *Grossschm. d. Erde*, ii, p. 127, *Lymantria fumida* Butl. of Japan is shown as a form of *L. dispar* L. Swinhoe, Matsumura and others have, correctly in my opinion, shown it as a separate species. The insect described above appears to be a well-defined geographical race of *L. fumida*, and may be a link between this species and *L. serva* Fab. of N. India.

Lymantria bivittata Moore (Plate III, fig. 7).

Pegella bivittata Moore, *Lep. Coll. Atk.*, p. 57 (1879).

♂. Antenna drab, on the outer side fuscous, tipped with strawberry pink. Antennal shaft fuscous, grading at the base to pale pinkish buff, pectinations Saccardo's umber. Head and thorax pinkish buff, with a double spot of fuscous dorsally on the thorax. Abdomen strawberry pink, pinkish buff at the base and with a series of fuscous spots dorsally. Pectus, venter and legs drab mixed with strawberry pink, the tibiae and tarsi marked with fuscous. Forewing whitish; two conspicuous fuscous subbasal spots, one above the cell, the other below the cell and slightly farther from the base; a few scattered snuff-brown antemedial spots and a conspicuous fuscous spot on the costa; a fuscous spot on the discocellulars; a double crenate snuff-brown postmedial fascia, the proximal portion at right angles to the inner margin, the distal portion parallel with the termen, arising close together from the inner margin at two-thirds, and each terminating with a fuscous spot on the costa; a series of subterminal interneural snuff-brown lunules, that between veins M^3 and Cu^1 more distad than the remainder; a series of terminal interneural fuscous spots, slightly invading the fringe, which is otherwise whitish. Hindwing pinkish buff, a faint snuff-brown spot on the discocellulars, and the termen broadly banded with snuff brown; fringe whitish. (In some specimens the hindwing is much darker and the terminal band not visible.) *Underside* of both wings, and fringes, pinkish buff,

with the markings of the upperside very faintly reproduced, and the basal one-third of the costal area fuscous.

Expanse : ♂♂ 54–62 mm.

1 ♂ (neallotype), Darjeeling, ex coll. Lidderdale ; British Museum. 3 ♂♂, Sikkim, 1,000–4,000 ft., and 1 ♂, Sikkim, 17.iii.1888 (O. Möller) ; 1 ♂, Sikkim, 2,000 ft., August 1895 ; Tring Museum.

Evidently a near relative of *L. brunneiplaga* Swinh. (1903), but sufficiently dissimilar therefrom in both sexes to be considered a perfectly distinct species.

Lymantria apicebrunnea Gaede (Plate III, fig. 12).

Lymantria apicebrunnea Gaede, Seitz, *Grossschm. d. Erde*, ii, *Suppl.*, p. 102 (1932).

♀. Palpus and antenna fuscous. Head and thorax pinkish buff, mixed on the frons with strawberry pink. Abdomen above and beneath cinnamon buff, dorsally on the basal segments mixed with strawberry pink. Pectus strawberry pink. Legs fuscous, mixed on the femora with strawberry pink. Forewing pale pinkish buff ; costa at the base narrowly snuff brown ; a streak of clay colour running from the costa at one-fourth oblique outwardly to the upper margin of the cell ; a broad clay-colour postmedial fascia running in a straight line from the costa at three-fifths, through the lower margin of the cell, to the inner margin at one-half ; fringe pale pinkish buff, marked interneurally with snuff brown. Hindwing pale pinkish buff ; inner marginal area faintly tinged with strawberry pink ; fringe pale pinkish buff, marked interneurally in the apical area with snuff brown. *Underside* of both wings pale pinkish buff ; fringes as on upperside.

Expanse : ♀♀ 84–86 mm., ♂♂ 57–64 mm.

1 ♀ (neallotype), 2 ♀♀ and 6 ♂♂, Lou-tse-kiang, Yunnan, S.W. of Ta-tsien-ou, 2,193 m. (R. P. Genestier) ; British Museum ex Oberthür collection.

Gaede described this species from a series of ♂♂ in the British Museum collection from Ta-tsien-lou, which according to L. Déjean (*Études Lép. Comp.*, vi, pp. 122–123, 1912) is in the dry zone at an altitude of 3,200 m. The British Museum also possesses a series of 6 ♂♂ and 3 ♀♀ from Lou-tse-kiang, ex Oberthür collection, from the wet zone at 2,193 m. The Lou-tse-kiang ♂♂ are slightly larger than Gaede's series, but seem to be otherwise indistinguishable, and I have therefore ventured to describe the ♀ from this series. I must mention that Gaede's type ♂, measured under my system (apex to centre of thorax, doubled) scales 56 mm., not 50 mm. as stated in his description.

Lymantria sakaguchii Mats.

Lymantria sakaguchii Mats., *Journ. Coll. Agric. Hokkaido*, xix, p. 26 (1927).

This species was described from a ♂ taken in Okinawa Island, Ryukyu Archipelago. In the British Museum is a ♂ from Oshima Island in the same group. It bears considerable resemblance to *L. apicebrunnea* Gaede, but is without the dark shading in the apex of the forewing.

In the Tring Museum are 2 ♀♀ from Ryukyu, June–August 1886, and as this sex has not yet been described, I have labelled one specimen as **neallotype.** It is scarcely distinguishable from the ♀ of *L. apicebrunnea* Gaede, described above, save that the postmedial fascia on the forewing is distinctly narrower, and that a streak of snuff brown runs oblique outwardly from the base of the costa almost to the anal vein.

Expanse : ♀♀ 83–84 mm.

Lymantria sphalera sphalera Collnt. (Plate III, fig. 2).

Lymantria sphalera Collnt., *Trans. Ent. Soc. Lond.*, lxxviii, p. 84 (1930).

♀. Palpus pinkish buff. Antenna sepia, the pectinations very short. Head and thorax pinkish buff, the frons tinged with pale flesh colour. Abdomen somewhat rubbed, but apparently cinnamon buff above and beneath. Pectus and femora pale flesh colour to flesh colour, tibiae and tarsi Saccardo's umber. Forewing drab, crossed by indistinct broad pale bands, directed as in the ♂, and tinged narrowly with pale flesh colour where they join the costa ; an indistinct spot in the centre of the cell, and slight darkening on the discocellulars ; fringe pale flesh colour, mixed interneurally with drab. Hindwing above and beneath, *underside* of forewing, and fringes, flesh colour to pale flesh colour, mixed interneurally on the fringes with drab.

Expanse : 89 mm.

1 ♀ (neallotype), New Ireland, November 1923 (A. F. Eichhorn) ; Tring Museum. 1 ♀, Ulul-Nono, New Ireland, 1917–1919 ; British Museum, ex Joicey collection.

At first sight there is little to connect the ♀ described above with the ♂ described in 1930. The relationship was first inferred from the fact that no other large *Lymantria* is known from the island, and it was then seen that the sexual dimorphism resembles that found in the better-known *Lymantria lepcha* Mr.

Lymantria sphalera talesea subsp. nov. (Plate III, fig. 8).

♂. Palpus pinkish buff, beneath and on the outer side fuscous. Antenna sepia. Head and thorax pinkish buff, tegula with a single fuscous spot near its base. Abdomen grenadine. Legs pinkish buff, the femora tinged with grenadine. Pectus and venter pinkish buff mixed with grenadine. Forewing pinkish buff ; some fuscous spots in and above the cell as in *L. sphalera sphalera* ; a very faint antemedial fascia, medial shade and postmedial fascia, of a darker shade of pinkish buff, following the same path as in *L. sphalera sphalera* ; fringe pinkish buff. Hindwing warm buff, i.e. of a slightly darker and warmer shade than the forewing ; fringe pinkish buff. *Underside* of both wings, and fringes, warm buff, with a conspicuous fuscous spot on the discocellulars of each wing and faint fuscous spotting round the apex and postmedially on the costa ; in and above cell of forewing tinged with grenadine.

♀. Similar to *L. sphalera sphalera*, but with considerable grenadine pink on the abdomen, and with a patch of flesh colour on the forewing reaching from cell to costa on the proximal side of the antemedial fascia.

Expanse : ♂ 75 mm., ♀ 126 mm.

1 ♂ (holotype) and 1 ♀ (allotype), Talesea, New Britain, March–April 1925 (A. F. Eichhorn) ; Tring Museum.

I have separated this form from the variable *L. sphalera sphalera* Collnt. (1930) of New Ireland, on account of the lighter ground colour and superior size.

In the Tring Museum are 2 ♂♂ from Rook Island and 5 ♂♂ from Manus, Admiralty Islands, which I am unable to separate from the insect described above.

Lymantria novaguineensis B.-Bak. (Plate III, fig. 16).

Lymantria novaguineensis B.-Bak., *Nov. Zool.*, xi, p. 407 (1904).

♀. Palpus snuff brown. Antenna fuscous, the pectinations very short. Head and thorax pale pinkish buff, mixed sparsely on the tegula with grenadine

pink. Abdomen above and beneath pinkish buff, mixed dorsally with grenadine pink. Pectus snuff brown mixed with pinkish buff. Legs much damaged in the type, but apparently mainly snuff brown marked with grenadine pink. Forewing whitish ; a small patch of snuff brown mixed with grenadine pink basally on the costa ; a snuff-brown antemedial fascia, at right angles to the costa, running in a straight line to the inner margin and decreasing in width on its path ; a double snuff-brown postmedial fascia, the proximal portion broad, the two portions roughly at right angles to the inner margin, running almost straight to the costa and diverging slightly on the way ; a series of terminal interneural snuff-brown spots ; fringe whitish, snuff brown interneurally. Hindwing grenadine pink, whitish towards the termen ; fringe whitish, mixed with snuff brown interneurally. Wings beneath grenadine pink, grading to whitish in the costal, apical and terminal areas of the forewing, and terminal area of the hindwing ; fringes as on upperside.

Expanse : 91 mm.

1 ♀ (neallotype), Milne Bay, British New Guinea, March 1899 (A. S. Meek) ; Tring Museum.

In describing this insect as the ♀ of *L. novaguineensis* I have been guided by the somewhat parallel case of *L. lunata* Stoll., and also by the fact that there is no other species from British New Guinea, known only in the ♂ sex, with which it could be associated. It can be easily distinguished from the ♀ of *L. lunata* by the straight antemedial fascia, the postmedial fascia at right angles to the inner margin, and the grenadine pink of the hindwing.

A ♀ from Geelvink Bay, in the British Museum collection, is very similar, but exhibits a faint preterminal fascia on the forewing and a slightly bowed (concavity basad) postmedial fascia. I have associated this insect with a long series of ♂♂ in the British Museum from Nomnagihé, near Wangaar, Geelvink Bay, at present shown under *L. novaguineensis*.

Lymantria doreyensis sp. nov. (Plate III, fig. 15).

♂. Palpus fuscous. Antennal shaft pale pinkish buff, pectinations tawny olive. Head, thorax and abdomen pinkish buff, with a sparse collar of strawberry pink between head and thorax. Pectus, venter and legs pinkish buff, mixed sparsely with strawberry pink. Forewing whitish ; a spot of strawberry pink at the base of the costa ; markings snuff brown to fuscous, resembling those of *L. nova-guinensis* B.-Bak ; fringe whitish. Hindwing and fringe whitish, inner marginal area shaded with pale yellow-orange, the margin produced to a slight angle between veins M^3 and Cu^2. *Underside* of both wings, and fringes, whitish, costa and apex of forewing faintly marked with fuscous.

Expanse : 42–45 mm.

1 ♂ (holotype) and 4 ♂♂ (paratypes), Dorey, N.W. of Geelvink Bay, Dutch New Guinea, June 1897 (W. Doherty) ; Tring Museum. 2 ♂♂, Mefor Island, Geelvink Bay, 15.viii–10.ix.1920, C., F., and J. Pratt ; British Museum.

Resembles *L. novaguineensis* B.-Bak., but considerable smaller, the antennae relatively larger, the abdomen without pink colour on the upperside, and the termen of the forewing less oblique. The genitalia are abundantly distinct.

In the British and Tring Museums are single ♂♂ from Ferguson Island,

Humboldt Bay, Stephansort, Sorong, Bachian and Ternate, which resemble the present species and *L. novaguineensis* B.-Bak., but show individual differences. They no doubt represent races of one of these two species, but in the absence of further material I have left them undescribed.

Lymantria buruensis sp. nov. (Plate III, fig. 9).

♂. Palpus bistre, tipped with pinkish buff, beneath at the base geranium pink. Antennal shaft pale pinkish buff, the pectinations long and bushy, sayal brown. Head and thorax pale pinkish buff (discoloured in the type), with a double spot of fuscous dorsally on the thorax. Abdomen geranium pink, a whitish stripe dorsally with a fuscous spot on each segment ; anal tuft whitish. Pectus, venter and legs pale pinkish buff mixed with geranium pink, pectus bistre in front, legs marked on the tarsi and towards the distal end of the tibia with bistre. Forewing pale pinkish buff marked with fuscous, the markings strongly resembling those of the smaller *L. nova-guinensis* B.-Bak., excepting that both portions of the postmedial fascia are bent more oblique inwardly where they join the costa, and that the subterminal fascia is slightly farther from the termen ; fringe whitish. Hindwing with inner marginal area strawberry pink, grading gradually to pale pinkish buff over the distal half of the wing ; a faint fuscous spot on the discocellulars, a fuscous subterminal patch near the anal angle, and a series of faint terminal interneural fuscous spots ; fringe whitish. *Underside* of forewing pale pinkish buff, a fuscous spot on the discocellulars, further spots along the costa and termen and in the apical area ; fringe whitish. *Underside* of hindwing pale pinkish buff, a fuscous spot on the discocellulars and interneural terminal spots near the apex ; fringe whitish.

Expanse : ♂♂ 65–69 mm.

1 ♂ (holotype) and 5 ♂♂ (paratypes), Gamoe 'Mrapat, Central West Buru, 5,000 ft., March–April 1922 ; and 2 ♂♂, Kako Tagalago, Central Buru, 2,700 ft., May 1922, C., F., and J. Pratt, in British Museum, ex Joicey collection.

A distinct species, nearest to *L. novaguineensis* B.-Bak.

Lymantria praetermissa sp. nov. (Plate III, fig. 13).

♂. Palpus drab, on the outer side fuscous. Antennal shaft pale pinkish buff, pectinations snuff brown. Head and thorax pale pinkish buff mixed with drab, the thorax lighter and with a spot of snuff brown near the base of the tegula. Abdomen strawberry pink, at the base pale pinkish buff ; anal tuft whitish. Pectus and venter pinkish buff mixed sparsely with strawberry pink, laterally on the venter a series of snuff-brown spots. Legs pinkish buff, mixed on the femora and distally on the tarsi with strawberry pink. Forewing whitish, marked with snuff brown and bistre, the pattern bearing much resemblance to that of *L. novaguineensis* B.-Bak., excepting that at the inner margin the postmedial fascia approaches closer to the antemedial fascia, and that the subterminal fascia is strongly crenate, with points on the veins and concavities terminad ; fringe whitish, snuff brown interneurally. Hindwing whitish, very slightly tinged with strawberry pink along the costa and in the inner marginal area ; fringe whitish. *Underside* of forewing, and fringe, whitish, faintly marked with

bistre and snuff brown in the costal and apical areas. Hindwings and fringe whitish, with a snuff-brown spot on the discocellulars.

Expanse: 48–55 mm.

1 ♂ (holotype), Buitenzorg, Java (Bogor); 2 ♂♂ (paratypes), Tjinjfroean, Gouv. Kina-Ondern, Malabar Geb., W. Java, 1,700 m., November 1909 (H. W. v. d. Weele); Tring Museum.

Nearest to *L. novaguineensis* B.-Bak. In the British Museum are three closely allied ♂♂ specimens from S.W. Sumatra, 7 ♂♂ from Central Ceram and 2 ♂♂ from Central Buru. These may probably prove to be races of *L. praetermissa*, but I think it better to leave them undescribed until such time as the ♀♀ are known.

Lymantria nephrographa Trnr.

Lymantria nephrographa Trnr., *Proc. R. Soc. Queensland*, xxvii, p. 23 (1915).
Lymantria mjöbergi Auriv., *Ark. Zool.*, xiii, 2, p. 26, pl. 1, fig. 1 (1920).

The type ♂♂ used in both these descriptions were taken on Mount Tambourine, Queensland. I have compared Turner's description of *L. nephrographa* with the coloured figure of *L. mjöbergi*, and have satisfied myself that the latter must sink.

Lymantria loacana Semp. (Plate III, fig. 10).

Lymantria loacana Semp., *Schmett. Philipp.*, ii, p. 462 (1898).

♂. Resembles the ♀ in colour and pattern, but less heavily marked on the forewing.

Expanse: ♂♂ 41–52 mm., average about 48 mm.

1 ♂ (neallotype), and 145 ♂♂, June 1912 and 1913, 2 ♂♂ Mareh 1913, 3 ♂♂ April 1912 and 1913, 3 ♂♂ May 1912, all 5,000 ft., Banguio, subprov. Benguet, Luzon (A. E. Wileman); British Museum.

In this extensive series there is variation in the ground colour of the forewing from whitish to drab, and from a hindwing practically without marking to one with a well-defined subterminal fascia and a series of terminal interneural spots.

Lymantria cryptocloea Collnt. (Plate III, fig. 5).

Lymantria cryptocloea Collnt., *Nov. Zool.*, xxxvii, p. 178, 1932.

♀. Palpus pinkish buff, on the outer side bistre. Antenna bistre, the pectinations short. Head, thorax and abdomen, above and beneath, pinkish buff to snuff brown, the ovipositor extruded. Legs pinkish buff, the tarsi bistre. Forewing pale pinkish buff, the markings snuff brown and resembling those of the ♂, but considerably broader and heavier; diseocellulars fuseous, and a streak of fuseous below the origin of vein Cu^2; fringe pinkish buff, snuff brown interneurally. Hindwing pinkish buff, with a broad but rather faint subterminal fascia of snuff brown; fringe pinkish buff. *Underside* of both wings, and fringes, pinkish buff, with the more prominent markings of the upperside faintly reproduced in snuff brown.

Expanse: 45–52 mm.

1 ♀ (neallotype), Kolambugan, subprov. Lanao, Mindanao, sea-level, 19.v.1914 (A. E. Wileman); 1 ♀, Klondyke, subprov. Benguet, Luzon, 800 ft., 11.v.1912 (A. E. Wileman); British Museum.

Lymantria kinta Collnt.

Lymantria kinta Collnt., *Nov. Zool.*, xxxviii, p. 97, 1932.

I described this species recently from a series of 10 ♂♂ taken in the Malay Peninsula.

In the British Museum, ex Joicey collection, are 5 ♀♀ from Bidi, Sarawak, 1907–1908 (C. J. Brooks), which agree with the ♂ in all details of colour and marking and appear to be conspecific.

Expanse: ♀♀ 53–56 mm.

This ♀ may be easily distinguished from the ♀ of *L. strigata* Auriv.—of which there is a specimen from Bidi, Sarawak, in the British Museum—by the dark reddish colour of the forewing as against the brownish colour in *L. strigata*, and also by the light buff hindwing marked lightly near the anal angle with hazel, as against the warm buff hindwing, with dark terminal band occupying nearly half the wing area, in *L. strigata*.

Lymantria serva Fab.

Bombyx serva Fab., *Ent. Syst.* (3), 1, p. 474 (1793).
Lymantria obsoleta Wlkr., *List Lep. Ins. B.M.*, iv, p. 880 (1855).

In the British Museum is a series of ♂♂ from Southern China (Tse-kou, Tien-tsuen, Siao-lou, Moupin, Omei-shan, Ta-tsien-lou and Hunan), which measure 33–39 mm., and are therefore smaller than N. Indian ♂♂ of *L. serva*. They do not appear to be otherwise separable.

The species in Ceylon has in the ♀ sex much geranium pink on the abdomen and hindwing, while in the ♂ the same colour predominates on the abdomen. These insects have appeared over a blank label in the British Museum for a number of years, but in Moore's *Lep. Ceylon*, ii, p. 100, Hampson's *Fauna of Br. India*, i, p. 461, and Swinhoe's *Revision*, *A.M.N.H.* (ix) 11, p. 427, specimens from Ceylon are included under *L. obsoleta* Wlkr. I have followed these authorities, as specimens from Ceylon seem doubtfully distinguishable from those taken in Southern India.

Lymantria inordinata barisana subsp. nov. (Plate III, fig. 17).

♂. Palpus strawberry pink, on the outer side fuscous. Antenna sayal brown. Head and thorax pinkish buff to sayal brown. Abdomen above and beneath strawberry pink, anal tuft light ochraceous buff. Pectus and legs strawberry pink mixed with pinkish buff, the tarsi marked with fuscous. Forewing pale pinkish buff (in some specimens orange-pink), mixed over the whole wing with sayal brown; an indistinct sayal-brown antemedial fascia; some bistre spots along the costa; an angled bistre streak on the discocellulars and a conspicuous patch of bistre below the origin of vein Cu^2; a crenate sayal-brown postmedial fascia from the costa at three-fourths to the inner margin at two-thirds; a

crenate sayal-brown subterminal fascia, approaching closely to the termen between veins R^5 to M^2 and M^3 to Cu^1 and finishing at the tornus; a series of bistre interneural terminal spots, continued round the apex; fringe orange-pink. Hindwing and fringe orange-pink. *Underside* of both wings, and fringes, orange-pink; discocellulars of both wings faintly marked with bistre; some patches of bistre along the costa of forewing.

♀. Strongly resembles the ♂, but with upperside of hindwing somewhat deeper in colour and marked with an indistinct series of interneural bistre terminal spots. Ovipositor extruded.

Expanse: ♂♂ 43–48 mm., ♀ 71 mm.

1 ♂ (holotype), 1 ♀ (allotype) and 2 ♂♂ (paratypes), Barisan Range, Western Slopes, S.W. Sumatra, 2,500 ft., October–November 1921; also 1 ♂ (paratype), North Korintji Valley, S.W. Sumatra, 5,000 ft., September–October 1921, all C., F., and J. Pratt, British Museum ex Joicey collection. Apparently conspecific are: 1 ♀, Mt. Dulit, Sarawak (Chas. Hose), British Museum collection; 1 ♀, Kuching, Sarawak, and 1 ♂, Mt. Gedeh, Java, August 1926, Tring Museum.

I have compared this insect with the type ♂ of *L. inordinata inordinata* Wlkr., 1865 (Celebes), which is at Oxford. The ♂ of the present subspecies is slightly smaller, and has shorter antennae. The interneural terminal spots of the forewing are smaller, and the subterminal lunule between veins M^3 and Cu^1 nearer to the termen, than in *L. i. inordinata*. The present subspecies has a distinct rosy flush over both wings, wanting in *L. i. inordinata*.

Lymantria pelospila Trnr.

Lymantria pelospila Trnr., *Proc. R. Soc. Queensland*, xxvii, p. 24 (1915).
Lymantria lutescens Auriv., *Ark. Zool.*, xiii, 2, p. 26, pl. 1, fig. 3 (1920).

I have compared a paratype of *L. lutescens* Auriv. with Turner's excellent description of *L. pelospila*. The stalking of veins *Rs* and M^1 in the hindwing is a distinctive feature, and the types are from Broome and Port Darwin respectively. I have no hesitation in stating that *L. lutescens* is a synonym of *L. pelospila*.

Lymantria nigrostriata Kenr. (1914) is a *Dasychira*.
Lymantria cerebosa Swinh. (1903) is a *Dasychira*.
Lymantria variegata Roths. (1915) is a *Dasychira*.
Lymantria griseata Roths. (1915) is a *Dasychira*.
Lymantria fusca Roths. (1915) is a *Dasychira*.
Lymantria nigrita Roths. (1915) is a *Dasychira*.
Euproctis castaneo-striata Kenr. (1914) is a *Lymantria*.
Euproctis canariensis Kenr. (1914) is a *Lymantria*.
Euproctis griseostriata Kenr. (1914) is a *Lymantria*.
Dasychira brunneata Kenr. (1914) is a *Lymantria*.
(*Dasychira didymata* Kenr. 1914) = *Lymantria dulcinea* Btlr. (1882).
(*Dasychira rufotincta* Kenr. 1914) = *Lymantria rosea* Btlr. (1879).

Ocneria signatoria militaris Obthr.

Lymantria militaris Obthr., *Bull. Soc. Ent. Fr.*, p. 386 (1914).
Ocneria signatoria algerica Obthr., *Lép. Comp.*, xi, p. 22, pl. cccxxx, Nos. 4727 and 4728 (1916); *Lép. Comp.*, xii, p. 293 (1916).

EXPLANATION OF PLATE III.

Fig. 1. *Lymantria joannisi* Le Cerf. Neallotype ♀.
„ 2. „ *sphalera sphalera* Collnt. Neallotype ♀.
„ 3. „ *monacha yunnanensis*, subsp. nov. Holotype ♀.
„ 4. „ *concolor lactipennis*, subsp. nov. Holotype ♀.
„ 5. „ *cryptocloea* Collnt. Neallotype ♀.
„ 6. „ *semicincta* Wlkr. ♂.
„ 7. „ *bivittata* Mr. Neallotype ♂.
„ 8. „ *sphalera talesea*, subsp. nov. Holotype ♂.
„ 9. „ *buruensis*, sp. nov. Holotype ♂.
„ 10. „ *loacana* Semp. Neallotype ♂.
„ 11. „ *polysticta* Collnt. Neallotype ♀.
„ 12. „ *apicebrunnea* Gaede. Neallotype ♀.
„ 13. „ *praetermissa*, sp. nov. Holotype ♂.
„ 14. „ *russula*, sp. nov. Holotype ♂.
„ 15. „ *doreyensis*, sp. nov. Holotype ♂.
„ 16. „ *novaguineensis* B.-Bak. Neallotype ♀.
„ 17. „ *inordinata barisana*, subsp. nov. Holotype ♂.

New species &c, of the GENUS LYMANTRIA

During my first search of the Oberthür collection in the British Museum some four years ago, I made a note that the type of *Lymantria militaris* Obthr. was not to be found. I have now no doubt that the several ♀♀ captured at Colomb-Béchar in 1912, and used as the material for the description of this species in 1914, were used again by Oberthür for *Ocneria signatoria algerica* in 1916! The latter must therefore sink. I have included the insect in *Ocneria*, although I am rather doubtful if the distinction between *Lymantria* and *Ocneria* can be maintained in its present form. I have also selected and labelled a "lectotype" for *O. signatoria militaris*.